Chesterfield County, Virginia

Memorandum

DATE: October 10, 2003

TO: Members of the Chesterfield Planning Commission

FROM: Joan Salvati, Water Quality Administrator

SUBJECT: **Chesapeake Bay Preservation Ordinance Revisions**

The Commission has scheduled an October 21, 2003 work session to discuss proposed revisions to the Chesapeake Bay Preservation Ordinance. Staff is proposing to amend the ordinance in order to make it consistent with the revised Chesapeake Bay Local Assistance Board regulations. The proposed ordinance amendments are attached for your review. As indicated at the Commission's meeting of September 16, 2003, staff met with representatives from the various stakeholder groups that would be interested and/or affected by the changes on October 7. Representatives from the development, environmental and engineering communities were present. After staff reviewed the various changes, those present noted that the changes closely reflect the revised State regulations and that they have been mandated. Accordingly, no recommended revisions to the proposed amendment were offered.

If you have any questions, please feel free to contact me at 751-4665.

C: M. D. "Pete" Stith
Thomas E. Jacobson
Richard M. McElfish

Summary of Major Amendments to the Chesapeake Bay Regulations

The major proposed changes to the Chesapeake Bay Preservation Ordinance include the following. Please note that all but last 4 items have been mandated by the recent amendments to the State regulations pertaining to the Chesapeake Bay Preservation Act:

- **A new definition of streams with perennial flow is added. (Sec. 19-301)**

- **A requirement that "in-field" verification of whether or not streams are perennial. The USGS quad sheets can be used only for "generally" depicting those streams that are perennial. Staff from the Office of Water Quality will be conducting the in-field determinations. (Sec. 19-231(a))**

- **Calculations to determine pollutant removal requirements and the size and type of Best Management Practice facilities is now to be governed by the Dept. of Conservation & Recreation's Stormwater Management Regulations. (Sec. 19-233 (f))**

- **The location of BMPs in Resource Protection Areas is now significantly limited. They can be placed in the landward 50 feet of the RPA only if that is the optimum location for the facility, if the facility is the minimum size necessary for stormwater quality and quantity needs, and part of a stormwater management program that has been approved by the Chesapeake Bay Local Assistance Board. (Sec. 19-232 (a) (5))**

- **Requests for exceptions now must go through a formal public hearing held by a "committee, board, commission or special body." The revised ordinance states that the Planning Commission will rule on exception requests. The Commission will be required to make findings on the request after staff from the Office of Water Quality provide all the facts of the case, including the completion of a Water Quality Impact Assessment. (Sec. 19-235-(b) (2))**

- **The required elements of Water Quality Impact Assessments has been expanded and made clearer. (Sec. 19-232 (e))**

- **Clarification is provided that the exemption for silvicultural activities are only applies to lands devoted solely to the silvicultural use. (Sec. 19-233 (i))**

- **For agricultural encroachments into the Resource Protection Area, a new provision has been added calling for a Soil & Water Conservation Assessment prior to the development of a Conservation Plan. A compliance protocol is also more clearly spelled out. (Sec. 19-232 (c) (2))**

- **A prohibition against the use of all-terrain-vehicles in RPAs. (Sec. 19-232 (b) (4))**

- **A provision is added stipulating that lawns do not constitute compliance with the Resource protection Area requirements. (Sec. 19-232(b) (3)**

- **Provisions are included relating to golf courses. These provisions reflect the codification of standard language that has been used in zoning cases. (Sec. 19-233 (l))**

- **A new provision is added requiring violators of the Resource Protection Area requirements to submit restoration plans. Sec. 19-232 (e)**

AN ORDINANCE TO AMEND THE CODE OF THE COUNTY OF CHESTERFIELD, 1997, AS AMENDED, BY AMENDING AND RE-ENACTING SECTIONS 19-228, 19-229, 19-230, 19-231, 19-232, 19-233, 19-234, 19-235, 19-236, 19-241, 19-242 AND 19-301 RELATING TO CHESAPEAKE BAY PRESERVATION AREAS

BE IT ORDAINED by the Board of Supervisors of Chesterfield County:

(1) That Sections 19-228, 19-229, 19-230, 19-231, 19-232, 19-233, 19-234, 19-235, 19-236, 19-241, 19-242 and 19-301 of the Code of the County of Chesterfield, 1997, as amended, are amended and re-enacted to read as follows:

DIVISION 4. CHESAPEAKE BAY PRESERVATION AREAS

Sec. 19-228. Resource protection area boundaries.

~~Resource protection areas consist of:~~

(a) At a minimum, resource protection areas shall consist of lands adjacent to water bodies with perennial flow that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may cause significant degradation to the quality of state waters. In their natural condition, these lands provide for the removal, reduction or assimilation of sediments, nutrients and potentially harmful or toxic substances in runoff entering the bay and its tributaries, and minimize the adverse effects of human activities on state waters and aquatic resources.

(b) Resource protection areas shall consist of:

~~(a)~~ (1) Tidal wetlands.

~~(b)~~ (2) Nontidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow ~~tributary streams~~.

~~(c)~~ (3) Tidal shores.

~~(d)~~ (4) A vegetated conservation area a minimum of 100 feet in width, located adjacent to and landward of the environmental features listed in subsections (1) ~~(a)~~ through (2) ~~(c)~~ above, and along both sides of any water body with perennial flow ~~tributary stream~~. The full conservation area shall be designated as the landward component of the resource protection area.

(5) Such other lands considered by the department of environmental engineering to meet the provisions of subsection (a) of this section and to be necessary to protect the quality of state waters.

(c) Designation of the components listed in subdivision (5) of subsection (b) shall not be subject to modification unless based on a reliable, site specific information as provided for in 9 VAC 10-20-105.

Sec. 19-229. Resource management area boundaries.

~~Resource management areas consist of one or more of the following:~~

(a) Resource management areas shall include land types that, if improperly used or developed, have a potential for causing significant water quality degradation or for diminishing the functional value of the resource protection area.

(b) A resource management area shall be provided contiguous to the entire inland boundary of the resource protection area. Resource management areas consist of one or more of the following:

~~(a)~~ (1) One-hundred-year floodplains.

~~(b)~~ (2) Highly erodible soils, including steep slopes.

~~(c)~~ (3) Highly permeable soils.

~~(d)~~ (4) Nontidal wetlands not included in resource protection areas.

~~(e)~~ (5) Land areas a minimum of 100 feet in width that are located adjacent to and landward of every resource protection area.

Sec. 19-230. Chesapeake Bay preservation areas maps.

Chesapeake Bay preservation areas include resource protection areas and resource management areas. Subject to any adjustments by the director of environmental engineering pursuant to section 19-231, the boundaries of these areas are ~~established on~~ included as a map layer in the County's Geographic Information System (GIS) which is available for viewing in the Department of Engineering. This GIS map layer shall serve as the general determination of the extent of the resource protection area boundary as defined in 9 VAC 10-20-80. ~~Chesapeake Bay preservation areas maps, which are adopted by reference and which shall be kept on file in the director of environmental engineering's office. For purposes of the Chesapeake Bay Preservation Act, Code of Virginia, § 10.1-2100 et seq., and the regulations promulgated by the Chesapeake Bay Local Assistance Board, VR173-02-01, the resource protection areas created by this division are declared to be "resource protection areas" and the resource management areas created by this division are declared to be "resource management areas."~~

Sec. 19-231. ~~Boundary adjustments.~~ Site-specific refinements of Chesapeake Bay Area boundaries and boundary adjustments.

(a) As part of, or prior to, the zoning application process, or during the review of a water quality impact assessment, pursuant to subsection 19-232 2 (c), a reliable, site-specific evaluation shall be conducted by the Office of Water Quality to determine whether water bodies on or adjacent to the proposed development site have perennial flow. The Resource Protection Area boundaries shall then be adjusted, as necessary, on the site, based on this evaluation of the site.

~~(a)~~ (b) The director of environmental engineering may adjust the delineation of any resource protection area boundaries when an environmental site assessment prepared by a qualified expert indicates a need for change based on the environmental features listed in section ~~19-228(a)~~ 19-228(b)(1) through ~~(d)~~ (3). The environmental site assessment shall be drawn to scale and shall clearly delineate such environmental features. Wetlands delineations shall be performed in accordance with the procedures specified in the most recently approved edition(s) of the Federal Manual for Identifying and Delineating Jurisdictional Wetlands.

~~(b)~~ (c) The director of environmental engineering may adjust the delineation of any resource management area boundaries when an environmental site assessment prepared by a qualified expert indicates a need for such change based on the environmental features listed in section ~~19-229(a)~~ 19-229(b)(1) through ~~(e)~~ (5). The environmental site assessment shall be drawn to scale and shall clearly delineate such environmental features. Wetlands delineations shall be performed in accordance with the procedures specified in the most recently approved edition(s) of the Federal Manual for Identifying and Delineating Jurisdictional Wetlands.

~~(c)~~ (d) Any person aggrieved by the director of environmental engineering's decision concerning the boundaries of a resource protection area or a resource management area may appeal such decision in accordance with section 19-268(d).

~~(d)~~ (e) Boundary adjustments shall not be available to property that is undergoing redevelopment if, due to previous development of the property, the Chesapeake Bay preservation area features listed in section ~~19-228(a)~~ 19-228(b)(1) through ~~(d)~~ (5) or section ~~19-229(a)~~ 19-229(b)(1) through ~~(e)~~ (5) cannot be determined.

Sec. 19-232. Resource protection area regulations.

In addition to the general performance criteria set forth in section 19-233, the criteria in this section are applicable in resource protection areas.

(a) ~~*Allowable development.* Land development within a resource protection area shall only be permitted if it is water-dependent or constitutes redevelopment.~~ Land development may be allowed in a resource protection area, subject to the approval of the Department of Environmental Engineering, only if it is (i) water dependent; (ii) constitutes redevelopment; (iii) constitutes development or redevelopment within a designated Industrial Development Area; (iv) is a new use established pursuant to subdivision (d) of this section; (v) is a road or driveway crossing satisfying the conditions set forth in subdivision 1 d of this section; or (vi) is a flood control or stormwater management facility satisfying the conditions set forth in subdivision (1)(e) of this section.

(1) ~~A new or expanded water-dependent facility may be permitted, provided that:~~ A water quality impact assessment in accordance with section 19-232(e)(1) shall be required for any proposed land disturbance.

(2) ~~Redevelopment shall conform to applicable stormwater management criteria and erosion and sediment control criteria set forth in section 19-232(b), section 19-233 and chapter 8.~~ A new or expanded water-dependent facility may be permitted, provided that:

a. It does not conflict with the comprehensive plan;

b. It complies with the performance criteria set forth in sections 19-232(b) and 19-233;

c. Any nonwater-dependent component is located outside any resource protection area; and

d. Access shall be provided with minimum disturbance necessary. If possible, a single point of access shall be provided.

(3) Redevelopment outside locally designated Intensely Developed Areas shall be permitted in the Resource Protection Area only if there is no increase in the amount of impervious cover and no further encroachment within the Resource Protection Area, and it shall conform to applicable erosion and sediment control and stormwater management criteria set forth in section 10-233, as well as all applicable stormwater management requirements of other start and federal agencies.

(4) Roads and driveways not exempt under section 19-235 (a) (1) and which, therefore, must comply with the provisions of this chapter, may be constructed in or across Resource Protection Areas if each of the following conditions are met:

a. The department of environmental engineering makes a finding that there are no reasonable alternatives to aligning the road or driveway in or across the Resource Protection Area.

b. The alignment and design of the road or driveway are optimized, consistent with other applicable requirements, to minimize the encroachment in the Resource Protection Area and adverse impacts on water quality.

c. The design and construction of the road or driveway satisfies all applicable criteria of this chapter, including submission of a water quality impact assessment.

d. The department of environmental engineering reviews the plan for the road or driveway proposed in or across the Resource Protection Area.

(5) Flood control and stormwater management facilities that drain or treat water from multiple development projects or from a significant portion of a watershed may be allowed in Resource Protection Areas, provided that (i) the local government has conclusively established that the location of the facility within the Resource Protection Area is the optimum location; (ii) the size of the facility is the minimum necessary to provide necessary flood control, stormwater treatment, or both; (iii) the facility must be consistent with a stormwater management program that has been approved by the Board as a Phase I modification to the county's

Chesapeake Bay Preservation Act program; (iv) all applicable permits for construction in state or federal waters must be obtained from the appropriate state and federal agencies, such as the U. S. Army Corps of Engineers, the Virginia Department of Environmental Quality, and the Virginia Marine Resources Commission; (v) approval must be received from the department of environmental engineering prior to construction; and (vi) routine maintenance is allowed to be performed on such facilities to assure that they continue to function as designed. It is not the intent to allow a best management practice that collects and treats runoff from only an individual lot or some portion of the lot to be located with in a Resource Protection Area.

(b) *Conservation area requirements.* The 100-foot conservation area shall be the landward component of the Resource Protection Area as set forth in subsection 19-228 (b) (4). Notwithstanding permitted uses and encroachments, as set forth in 19-232 (c), the 100-foot conservation area is not reduced in width. To minimize the adverse effects of human activities on the other components of the Resource Protection Area, state waters, and aquatic life, a 100-foot wide conservation area of vegetation that is effective in retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff shall be retained if present and established where it does not exist.

(1) ~~A vegetated conservation area that retards runoff, prevents erosion and filters nonpoint source pollution from runoff shall be retained if present and shall be established in areas where it does not exist. The conservation area shall be located adjacent to and landward of the environmental features listed in section 19-228(a) through (d) and along both sides of any tributary stream. The vegetated conservation area shall extend a minimum of 100 feet in width from such environmental features and tributary streams. The full conservation area shall be deemed to achieve a 75 percent reduction of sediments and a 40 percent reduction of nutrients. After considering a water quality impact assessment, the director of environmental engineering may approve a combination of a 50-foot or wider vegetative conservation area and appropriate best management practices located landward of the conservation area that collectively achieve water quality protection, pollutant removal and water resource conservation at least the equivalent of the full conservation area.~~ The 100-foot wide conservation area shall be deemed to achieve a 75% reduction of sediments and a 40% reduction of nutrients.

(2) ~~The vegetated conservation area shall be maintained to meet the following additional performance standards:~~ Where land uses such as agriculture or silviculture within the area of the conservation area cease and the lands are proposed to be converted to other uses, the full 100-foot wide buffer shall be reestablished. In reestablishing the conservation area, management measures shall be undertaken to provide woody vegetation that assures the conservation area functions set forth in this chapter.

(3) The clearing of existing vegetation in the conservation area and replacing that vegetation with a lawn shall not constitute compliance with the requirements of 19-232 (b).

(4) All terrain vehicles shall be prohibited in Resource Protection Areas.

(c) *Permitted modifications of the conservation area.*

~~a.~~ (1) In order to maintain the conservation area's functional value, ~~indigenous~~ existing vegetation may ~~only~~ be removed, subject to the approval of the water quality administrator, only to provide for reasonable sight lines, access paths, ~~pedestrian ways,~~ general woodlot management and best management practices, including those that prevent upland erosion and concentrated flows of stormwater, as follows:

~~1.~~ a. Trees may be pruned or removed if necessary to provide for sight lines and vistas. If trees are removed, they shall be replaced with other vegetation that, in the judgment of the water quality administrator, is equally effective in retarding runoff, preventing erosion and filtering nonpoint source pollution from runoff.

~~2.~~ b. Any ~~pedestrian way~~ path shall be constructed and surfaced to effectively control erosion.

~~3.~~ c. Dead, diseased or dying trees or shrubbery and noxious weeds (such as Johnson grass, kudzu, and multifora rose) may be removed and thinning of trees may be allowed, pursuant to sound horticultural practices ~~at the discretion of the landowner, and silvicultural thinning may be conducted based upon the recommendation of a professional forester or arborist~~.

~~4.~~ d. For shoreline erosion control projects, trees and woody vegetation may be removed, necessary control techniques employed and appropriate vegetation established to protect or stabilize the shoreline in accordance with the best available technical advice and applicable permit conditions or requirements.

~~b. When compliance with the conservation area requirements will result in the loss of a buildable area on a lot or parcel recorded prior to October 1, 1989, the director of planning or the planning commission may modify the conservation area's width at the time of subdivision, schematic, site plan or improvement sketch approval, in accordance with the director of environmental engineering's recommendation, based upon the following criteria:~~

~~1. Modifications to the conservation areas shall be the minimum necessary to achieve a reasonable building area for a principal structure and necessary utilities.~~

~~2. If possible, an area equal to the area encroaching into the conservation area shall be established elsewhere on the lot or parcel to maximize water quality protection.~~

~~3. In no case shall the reduced portion of the conservation area be less than 50 feet in width.~~

~~c.~~ (2) On agricultural lands, the conservation area shall be managed to prevent concentrated flows of surface water from breaching the conservation area and appropriate measures may be taken to prevent noxious weeds (such as Johnson grass, kudzu, and multiflora rose) from invading the conservation area. ~~The a~~ Agricultural activities may encroach into the conservation area ~~may be reduced~~ as follows:

~~1.~~ a. ~~To a minimum width of 50 feet when the adjacent land is implementing a federal, state or locally funded agricultural best management practices program, provided that the combination of the reduced conservation area and the best management practices achieves water quality protection, pollutant removal and water resource conservation at least the equivalent of the full conservation area.~~ Agricultural activities may encroach within the landward 50 feet of the 100-foot wide conservation area when at least one agricultural best management practice which, in the opinion of the local soil and water conservation district board, addresses the more predominant water quality issue on the adjacent land is being implemented on the adjacent land provided that the combination of the undisturbed conservation area and the best management practice achieves water quality protection, pollutant removal, and water resource conservation at least the equivalent of the 100-foot conservation area. If nutrient management is identified as the predominant water quality issue, a nutrient management plan, including soil tests, must be developed consistent with the Virginia Nutrient Training and Certification Regulations (4 VAC 5-15) administered by the Virginia Department of Conservation and Recreation.

~~2.~~ b. ~~To a minimum width of 25 feet when a soil and water quality conservation plan, approved by the James River Soil and Water Conservation District, has been implemented on the adjacent land. Such plan shall be based on the Field Office Technical Guide of the U.S. Department of Agriculture Soil Conservation Service and accomplish water quality protection consistent with this division.~~ Agricultural activities may encroach within the landward 75 feet of the 100-foot wide conservation area when agricultural best management practices which address erosion control, nutrient management, and pest chemical control, approved by the James River soil and water conservation district, are being implemented on the adjacent land. The erosion control practices must prevent erosion from exceeding the soil loss tolerance levels, referred to as "T," as defined in the "National Soil Survey Handbook" of November 1996 in the "Field

Office Technical Guide" of the U.S. Department of Agriculture Natural Resource Conservation Service. A nutrient management plan, including soil tests, must be developed, consistent with the Virginia Nutrient Management Training and Certification Regulations (4 VAC 5-15) administered by the Virginia Department of Conservation and Recreation. In conjunction with the remaining conservation area, this collection of best management practices shall be presumed to achieve water quality protection at least the equivalent of that provided by the 100-foot conservation area.

~~3.~~ c. The conservation area is not required for drainage ditches associated with agricultural land if the adjacent agricultural land has in place at least one best management practices ~~in accordance with a conservation plan approved by the James River Soil and Water Conservation District~~ which, in the opinion of the James River soil and water conservation district, addresses the predominant water quality issues on the adjacent land.

d. If specific problems are identified pertaining to agricultural activities which are causing pollution of the nearby water body with perennial flow or violate performance standards pertaining to the vegetated conservation area, the James River Soil and Water conservation district, shall recommend a compliance schedule to the landowner and require the problems to be corrected consistent with that schedule. This schedule shall expedite environmental protection while taking into account the seasons and other temporal considerations so that the probability for successfully implementing the corrective measures is greatest.

e. In cases where the landowner or his agent or operator has refused assistance from the local soil and water conservation district in complying with or documenting compliance with the agricultural requirements of this chapter, the district shall require the landowner to correct the problems within a specified period of time not to exceed 18 months from their initial notification of the deficiencies to the landowner. The district shall recommend a compliance schedule to the landowner. The schedule shall expedite environmental protection while taking into account the seasons and other temporal considerations so that the probability for successfully so that the probability for successfully implementing the corrective measures is greatest.

(d) *Permitted encroachments into the conservation area.*

1. When the application of the conservation area would result in the loss of a buildable area on a lot or parcel recorded prior to October 1, 1989, encroachments into the conservation area may be allowed through an administrative process, in accordance with the following criteria:

a. Encroachments into the conservation area shall be the minimum necessary to achieve a buildable area for a principal structure and necessary utilities.

b. Where practicable, a vegetated area that will maximize water quality protection, mitigate the effects of the conservation area encroachment, and is equal to the area of encroachment into the conservation are shall be established elsewhere on the lot or parcel.

c. The encroachment may not extend into the seaward 50 feet of the conservation area.

d. A written request for an exception to this division's requirements shall be made to the director of environmental engineering. It shall identify the impact of the proposed exception on water quality, on public safety and on lands within the resource protection area through the completion of a water quality impact assessment that complies with section 19-232 (e).

~~(c)~~ (e) *Water quality impact assessments and resource protection area restoration plans.*

(1) A water quality impact assessment shall be submitted to, and approved by, the ~~director of environmental engineering~~ water quality administrator for any proposed development within a resource protection area, including any conservation area modification or ~~reduction~~ encroachment authorized as provided by section ~~19-232(b)~~ 19-232(d), and may be required by the director of environmental engineering for any other development in Chesapeake Bay preservation areas based on the site's unique characteristics or the intensity of the proposed use or development. The purpose of the water quality impact assessment is to identify and, where applicable, quantify the impacts of proposed development on water quality and lands in the Resource Protection Areas consistent with the goals and objectives of the Chesapeake Bay Preservation Act, this chapter, and to identify specific measures for the mitigation of those impacts. There shall be two types of water quality impact assessments: a minor assessment and a major assessment.

a. *Minor water quality impact assessment.* A minor water quality impact assessment shall be required for ~~a~~ development or redevelopment which involves 2,500 square feet or less of land disturbance. The minor water quality assessment must demonstrate that the combination of undisturbed conservation area, restoration plantings and identified best management practices or measures will be effective in retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff. The minor water quality impact assessment shall include a site drawing, to scale if practicable, which shows the following:

(i) The location of the resource protection area;

(ii) The location, ~~and~~ nature and quantification of proposed encroachments into the resource protection area, including type of material proposed to be used for access paths, areas of clearing or grading, location of any structures, drives or other impervious surfaces;

(iii) Justification for ~~any~~ the proposed encroachment;

(iv) Type and proposed location of any best management practice facilities or measures; ~~and~~

(v) Existing and proposed runoff outfalls from the property~~.~~;

(vi) Location and density of existing vegetation on site, including the number and type of trees and other vegetation to be removed in the conservation area as a result of the encroachment or modification; and

(vii) A restoration plan that includes the replacement of vegetation that has been removed from the conservation area. The type, quantity and density of vegetation shall be capable of retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff.

b. *Major water quality impact assessment.* A major water quality impact assessment shall be required for a development which exceeds 2,500 square feet of land disturbance. The major water quality impact assessment shall be prepared by a qualified expert and shall include:

(i) All information required for a minor water quality impact assessment;

(ii) ~~The site's existing topography, soil characteristics, erosion potential and hydrology;~~ A description of the proposed encroachment including:

1. A description of the proposed improvements, including structures (including the type and size), roads, access paths, irrigations systems, lighting systems, and utilities;

2. If an access path is proposed, an identification of the location of the path and the materials that will be used for the path.

(iii) ~~A description of impacts on wetlands and streams;~~ A description of the encroachment site's physical characteristics including:

1. The site's existing topography, soil characteristics, erosion potential and hydrology;

2. A description of wetland areas including their functions and values;

3. A description of streams and other water bodies;

4. Location and density of existing vegetation on site, including the number and type of trees and other vegetation categorized by type (e.g. shrubs, trees, groundcover) within 50 feet of the proposed land disturbance.

(iv) ~~A description of measures to mitigate any identified impacts;~~ A discussion of the potential water quality impacts of the proposed encroachment, including:

1. A quantification of any identified impacts on streams or other water bodies, including potential erosion and sedimentation that could enter those waters as a result of the encroachment;

2. An identification and quantification of any impacts on wetlands, including impacts on wetland hydrology;

3. An identification of temporary or permanent impacts to streams or other water bodies;

4. An identification of any areas to be disturbed outside the resource protection area that have the potential to adversely affect the resource protection area;

5. The limits of clearing, grading and the percent of the site to be cleared;

6. Where applicable, an estimation of the pre and post construction pollutant loads;

7. Estimation of the percent increase in impervious cover;

8. A discussion of the number and type of trees and other vegetation to be removed in the conservation area as a result of the encroachment or modification;

9. A discussion of proposed changes to the site topography and hydrology and the impacts of those changes on water quality;

10. A construction schedule, including the anticipated duration of construction.

(v) ~~A list of trees six inches or greater in diameter at breast height and of indigenous vegetation which is within 50 feet of the proposed land disturbance;~~ A discussion of measures to mitigate the identified impacts, including:

1. A Restoration Plan that includes the replacement of vegetation that has been removed from the conservation area. The Plan shall include the schedule for replanting, which shall take into account the appropriate season for replanting. The type, quantity and density of vegetation specified shall be capable of retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff. The vegetation specified plantings shall, to the maximum extent practicable, consist of native species.

2. A listing of proposed erosion and sediment control measures, including additional measures that are beyond those required chapter 8 of the Code of Chesterfield County;

3. A listing of best management practices and measures to reduce impacts on water quality;

4. A discussion that demonstrates, in a quantifiable manner, that the combination of revegetation and best management practices will achieve pollutant removal that is equivalent to that which is achieved without the encroachment.

5. A listing of other mitigation measures that may be required by the Director of Environmental Engineering or the Water Quality Administrator.

~~(vi) The limits of clearing and grading and proposed measures to preserve existing trees and indigenous vegetation;~~

~~(vii) Proposed plantings and other vegetative measures to enhance water quality and a proposed construction schedule; and~~

~~(viii) Other measures required by the director of engineering to ensure that the impact on water quality can be accurately predicted.~~

(e) When a person has violated the requirements of this subsection, the violator shall submit a resource protection area restoration plan to the water quality administrator for review and approval. The intent of the restoration plan is to ensure that the resource protection area function are restored in manner that will achieve the pollutant removal requirements as defined

in 19-232(b)(1). The restoration plan shall specify the types and number of vegetation to be planted and a schedule for the installation of the plantings. The establishment of a lawn shall not constitute a satisfactory restoration of the resource protection area.

Sec. 19-233. Resource management area regulations.

Any use, development or redevelopment of land within a Chesapeake Bay Preservation Area shall meet the following performance criteria:

(a) No more land shall be disturbed than is necessary to provide for the ~~desired~~ proposed use or development.

(b) Indigenous vegetation shall be preserved to the maximum extent possible consistent with the use or development allowed.

(c) Land development shall minimize impervious cover consistent with the use or development allowed.

(d) ~~(1) Stormwater runoff shall be controlled to achieve the following:~~ All development exceeding 2,500 square feet of land disturbance shall be accomplished through a plan of development review process consistent with § 15.2-2286 A 8of the Code of Virginia and subdivision 1 e of 9 VAC 10-20-231.

~~a. For any new use or development, the post-development nonpoint source pollution runoff load shall not exceed the pre-development load, based on the calculated average land cover condition of the county.~~

~~b. For redevelopment sites not currently served by water quality best management practices, the existing nonpoint source pollution load shall be reduced by at least ten percent after redevelopment.~~

~~c. For redevelopment sites currently served by water quality best management practices, the post-development nonpoint source pollution runoff load shall not exceed the existing load.~~

(e) Any land disturbing activity that exceeds an area of 2,500 square feet (including construction of all single family houses, septic tanks and drainfields, but other wise as defined in § 10.1-560 of the Code of Virginia) shall comply with the requirements of the local erosion and sediment control ordinance.

(f) Stormwater management criteria consistent with the water quality protection provisions (4 VAC 3-20-71 et. seq.) of the Virginia Stormwater Management Regulations (4 VAC 3-20) shall be satisfied.

~~(2)~~ (1) The following stormwater management options shall be considered to comply with the requirements of this subsection ~~(d)(1)~~:

a. Incorporation on the site of best management practices that ~~achieve the required control.~~ meet the water quality protection requirements set forth in this subsection. For the purposes of this subsection, the "site" may include multiple projects or properties that are adjacent to one another or lie within the same drainage area where a single best management practice will be utilized by those projects to satisfy water quality protection requirements;

b. Compliance with a locally adopted regional stormwater management program incorporating pro rata share payments pursuant to the authority provided in Code of Virginia, § 15.2-2243, that is reviewed and found by the Board to achieves ~~equivalent~~ water quality protection equivalent to that required by this subsection;~~.~~

c. Compliance with a ~~state or locally implemented program of stormwater discharge permits pursuant to section 402(p) of the federal Clean Water Act, as set forth in 40 CFR 122, 123, 124 and 504, dated December 7, 1988, and as amended.~~ site-specific VPDES permit issued by the Department of Environmental Quality, provided the Department of Environmental Engineering specifically determines that the permit requires measures that collectively achieve water quality protection equivalent to that required by this subsection.

~~d. For a redevelopment site that is completely impervious as currently developed, restoring a minimum of 20 percent of the site to vegetated open space.~~

~~(3)~~ (2) Any maintenance, alteration, use or improvement to an existing structure ~~which~~ that does not degrade the quality of surface water discharge, as determined by the director of environmental engineering, may be exempted from the requirements of this subsection. Any person aggrieved by a decision of the director of environmental engineering under this subsection may appeal such decision in accordance with the procedures provided in section 19-268(d).

~~(4)~~ (3) ~~Compliance with the requirements of subsection (d)(1)a shall be determined by reference to total phosphorus loads in stormwater runoff. The post-development total phosphorus loads in stormwater runoff shall not exceed 0.45 pounds per acre per year.~~ Stormwater management criteria for redevelopment shall apply to any redevelopment, whether or not it is located within an intensely developed area.

~~(e)~~ (g) ~~If~~ Where the best management practices utilized in a commercial development require regular or periodic maintenance in order to continue their functions, such maintenance shall be ensured by a maintenance/easement agreement, commercial

surety bond, bank letter of credit or other assurance satisfactory to the director of environmental engineering. ~~If~~ Where the best management practices utilized for a residential development require regular or periodic maintenance in order to continue their functions, such maintenance shall be ensured by a commercial surety bond, bank letter of credit or cash escrow in an amount equal to $100.00 for each dwelling unit in a residential development. The requirement excludes apartment developments outside the Swift Creek Reservoir Watershed. The form of any bond or letter of credit provided pursuant to this section shall be subject to approval by the county attorney.

~~(f)~~ (h) Land on which agricultural activities are being conducted, including but not limited to crop production, pasture, and dairy and feedlot operations, shall have a soil and water quality conservation ~~plan approved by the James River Soil and Water Conservation District. Such plan shall be based upon the Field Office Technical Guide of the U.S. Farm Service Agency Soil Conservation Service and accomplish water quality protection consistent with this section~~ assessment conducted that evaluates the effectiveness of existing practices pertaining to soil erosion and sediment control, nutrient management, and management of pesticides and, where necessary, results in a plan that outlines additional practices needed to ensure that water quality protection is being accomplished consistent with the Act and this chapter.

1. Recommendations for additional conservation practices need address only those conservation issues applicable to the tract or field being assessed. Any soil and water quality conservation practices that are recommended ass a result of such an assessment and are subsequently implemented with financial assistance from federal or state cost-share programs must be designed, consistent with cost-share practice standards effective in January 1999 in the "Field Office Technical Guide" of the U.S. Department of Agricultural BMP Manual" of the Virginia Department of Conservation Service or the January 2001 edition of the "Virginia Agricultural BMP Manual" of the Virginia Department of Conservation and Recreation, respectively. Unless otherwise specified in this section, general standards pertaining to the various agricultural conservation practices being assessed shall be as follows:

   a. For erosion and sediment control recommendations, the goal shall be, where feasible, to prevent erosion from exceeding the soil loss tolerance level, referred to as "T" as defined in the "National Soils Survey Handbook" of November 1996 in the "the "field Office Technical Guide" of the U.S. Department of Agriculture natural Resource4 Conservation Service. However, in no case shall erosion exceed the soil loss consistent with an Alternative Conservation System, referred to as an "ACS", as defined in the "Field Office Technical Guide" of the U.S. Department of Agriculture Natural Resource Conservation Service.

b. For nutrient management, wherever nutrient management plans are developed, the operator or landowner must provide soils test information, consistent with the Virginia Nutrient Management Training and Certification Regulations (4 VAC 5-15-10 et seq.).

c. For pest control, referrals shall be made to the Chesterfield Cooperative Extension Agent. Recommendations shall include copies of applicable information form the "Virginia Pest Management Guide" or other Extension materials related to pest control.

2. A higher priority shall be placed on conducting assessments of agricultural fields and tracts adjacent to Resource Protection Areas. However, if the landowner or operator of such a tract also has Resource Management Area fields or tracts in his operation, the assessment for that landowner or operator may be conducted for all fields or tracts in the operation. When such an expanded assessment is completed, priority must return to Resource Protection Area fields and tracts.

3. The findings and recommendations of such assessments and any resulting soil and water quality conservation plans will be submitted to the local Soil and Water Conservation District Board, which will be the plan-approving authority.

(i) Silviculture activities in Chesapeake Bay Preservation Areas are exempt from this chapter provided that silvicultural operations adhere to water quality protection procedures prescribed by the Virginia Department of Forestry in the most recent edition of "Forestry Best Management Practices for Water Quality in Virginia Technical Guide." The Virginia Department of Forestry will oversee and document installation of best management practices and will monitor in-stream impacts of forestry operations in Chesapeake Bay Preservation Areas.

~~(g)~~ (j) The director of environmental engineering may authorize the developer to use a retention or detention basin or alternative best management practice facility to achieve the performance criteria set forth in ~~subsection (d)~~ this chapter.

(k) The department of environmental engineering shall require evidence of all wetlands permits required by law prior to authorizing grading or other on-site activities.

(l) Proposed new golf courses and the significant refurbishment of existing golf courses shall conform to the following criteria. Significant refurbishment entails complete redesign and construction of existing golf course fairways and greens and shall not constitute simply replanting of grass on existing fairways and greens:

(1) A nutrient and pest management plan must be submitted and approved by the environmental engineering department and the county extension agent

prior to the initiation of golf course operations. All components of the plan shall be implemented for the life of the golf course.

(2) As much stormwater runoff as practicable shall be directed to ponds or golf course features that have a pollutant removal capacity. Where this is not achievable, all fertilized areas and parking areas must drain through another form of best management practice (BMP) facility prior to entering an adjacent water body. The department of environmental engineering shall approve such BMPs.

(3) Cart paths crossing natural watercourses shall be constructed at least one foot above the 100-foot floodplain elevation. Such crossing structures shall employee the column and beam construction method when crossing resource protection areas, Riparian Corridor Management Areas (as defined by the Swift Creek Reservoir Management Plan & Maintenance Program), and wetlands.

Sec. 19-234. Exemptions in resource protection areas.

(a) ~~Construction, installation, operation and maintenance of electric, gas and telephone transmission lines, railroads and public roads and their appurtenant structures in accordance with the Erosion and Sediment Control Law, Code of Virginia, §§ 10.1-560--10.1-571, or an erosion and sediment control plan approved by the Virginia Soil and Water Conservation Board shall constitute compliance with this division's requirements.~~ The following land disturbances in resource protection areas may be exempt from the criteria of this part provided that, in the judgment of the director of environmental engineering, they comply with subdivisions 1 through 4 below: (i) water wells; (ii) passive recreation facilities such as boardwalks, trails and pathways; and (iii) historic preservation and archaeological activities.

(1) Any required permits, except those to which this exemption specifically applies, shall have been issued;

(2) Sufficient and reasonable proof is submitted that the intended use shall not result in an adverse impact on water quality;

(3) The intended use does not conflict with nearby planned or approved uses; and

(4) Any land disturbance exceeding an area of 2,500 square feet shall comply with all erosion and sediment control requirements of chapter 8 and the Code of Chesterfield County.

~~(b) Construction, installation and maintenance of water, sewer and local gas lines shall be exempt from this division's requirements, provided that:~~

~~(1) To the degree possible, the location of such utilities and facilities should be outside resource protection areas.~~

~~(2) No more land than necessary shall be disturbed to provide for the desired utility installation.~~

~~(3) All construction, installation and maintenance of such utilities and facilities shall be in compliance with any applicable federal, state and local requirements and permits and designed and conducted in a manner that protects water quality.~~

~~(4) Any land disturbance exceeding an area of 2,500 square feet shall comply with all erosion and sediment control requirements of chapter 8 and this division.~~

~~(c)~~ (b) Silvicultural activities shall be exempt from this division's requirements, provided that such activities adhere to water quality protection procedures prescribed by the department of forestry in its "Best Management Practices Handbook for Forestry Operations," as amended. This exemption shall not apply to land disturbing activities on land in an agriculturally zoned district which is not used directly for the management of agricultural crops, forest crops and livestock, or land which has been rezoned or converted, or proposed to be rezoned or converted, at the request of the owner or previous owner, from an agricultural to a residentially, commercially or industrially zoned district or use.

~~(d) The following land disturbances may be exempted from resource protection area regulations:~~

~~(1) Water wells;~~

~~(2) Passive recreation facilities such as boardwalks, trails, pathways and gazebos; and~~

~~(3) Historic preservation and archaeological activities; provided that the director of environmental engineering finds that:~~

~~a. Any required permits, except those to which this exemption specifically applies, shall have been issued;~~

~~b. Sufficient and reasonable proof is submitted that the intended use shall not deteriorate water quality;~~

~~c. The intended use does not conflict with nearby planned or approved uses; and~~

~~d. Any land disturbance exceeding an area of 2,500 square feet shall comply with all erosion and sediment control requirements of chapter 8 and this division.~~

~~(e)~~ (c) Nonresidential uses which are located over 100 feet from and are not adjacent to R, R-MF or R-TH Districts or any property used for residential purposes, schools, child care centers, playgrounds, shopping centers, libraries, hospitals, public institutions or similar facilities shall be exempt from the provisions of sections 19-233(g)(2)a--e and (3)d.

Sec. 19-235. Exemptions and ~~E~~exceptions.

(a) ~~A written request for an exception to this division's requirements shall be made to the director of environmental engineering. It shall identify the impact of the proposed exception on water quality, on public safety and on lands within the resource protection area through the performance of a water quality impact assessment which complies with section 19-232(c), provided that in the case of an exception requested from the required safety measures, a water quality impact assessment shall not be required if the request is supported by documentation which demonstrates that the request will not be detrimental to public safety and welfare.~~ Public utilities, railroads, public roads, and facilities exemptions.

(1) Construction, installation, operation and maintenance of electric, natural gas, fiber-optic and telephone transmission lines, railroads and public roads and their appurtenant structures in accordance with (i) the Erosion and Sediment Control Law (Va. Code §10.1-560 et seq.), and the Stormwater Management Act (Va. Code § 10.1-603.1 et seq.), or (ii) an erosion and sediment control plan and stormwater management plan approved by the Virginia Department of Conservation and Recreation. The exemption of public roads is further conditioned as follows: optimization of the road alignment and design, consistent with other applicable requirements, to prevent or otherwise minimize encroachment in the Resource Protection Area and adverse impacts on water quality.

(2) Construction, installation and maintenance of water, sewer natural gas, and underground telecommunications and cable television lines owned, permitted, or both, by a local government or regional service authority shall be exempt from this division's requirements, provided that:

a. To the degree possible, the location of such utilities and facilities should be outside resource protection areas.

b. No more land than necessary shall be disturbed to provide for the desired utility installation.

c. All construction, installation and maintenance of such utilities and facilities shall be in compliance with any applicable federal, state and local requirements and permits and designed and conducted in a manner that protects water quality.

d. Any land disturbance exceeding an area of 2,500 square feet shall comply with all erosion and sediment control requirements of chapter 8 and this division.

(b) ~~The director of environmental engineering shall review the exception request and the water quality impact assessment, if required. In making a determination, he may impose conditions or require alternatives that are necessary to protect water quality, protect the public safety and welfare and further the purpose and intent of this division. He may grant the exception if he finds all of the following:~~ Exceptions.

(1) ~~Granting the exception shall not confer any special privileges upon the applicant that are denied by this division to other property owners in resource protection areas or resource management areas.~~ Exceptions to the requirements of sections 19-232 and 19-233 of this chapter may be granted, provided that a finding is made that:

a. The request is the minimum necessary to afford relief.

b. Granting the exception shall not confer any special privileges upon the applicant that are denied by this division to other property owners who are subject to its provisions and who are similarly situated.

c. The exception request is in harmony with the purpose and intent o this chapter and will not result in a significant adverse impact on water quality.

d. The exception request is not based on conditions or circumstances that are self-created or self-imposed.

e. Reasonable and appropriate conditions are imposed, as warranted, that will ensure that the permitted activity will not cause a degradation of water quality.

f. The request is being made because of the particular physical surroundings, use, shape or topographical conditions of the specific property involved or property adjacent to or within 100 feet of the subject property, or a particular hardship to the owner will occur, as distinguished from a mere inconvenience, if the strict letter of this chapter is carried out.

(2) ~~The exception request is not based on conditions or circumstances that are self-created or self-imposed.~~ Exception process.

a. A request for an exception to the requirements of section 19-232 of this chapter shall be made in writing to the Chesterfield Planning Commission. It shall identify the impact of the proposed exception on water quality, on public safety and on lands within the resources protection area through development of a water quality impact assessment which complies with section 19-232 (5). Exception requests seeking relief from the best management practice facility safety measures and design criteria required in sections 19-241 and 19-242 shall not require the completion of a water quality impact assessment if the request is supported by documentation which demonstrates that the request will not be detrimental to public safety and welfare.

b. The department of environmental engineering shall notify the affected public of any such exception requests and shall consider these requests during a public hearing in accordance with Va. Code § 15.2-2204, except that only one hearing shall be required.

c. The Planning Commission shall review the request for an exception and the water quality impact assessment and may grant the exception with such conditions and safeguards as deemed necessary to further the purpose and intent of this chapter if the Commission finds:

(i) Granting the exception will not confer upon the applicant any special privileges denied by this chapter to other property owners who are subject to its provisions and who are similarly situated.

(ii) The exception is not based on conditions or circumstances that are self imposed, not does the request arise from conditions or circumstances either permitted on non-conforming that are related to adjacent parcels.

(iii) The exception request will be in harmony with the purpose and intent of this chapter, not injurious to the community or otherwise detrimental to the public welfare, and will not result in a significant adverse impact on water quality.

(iv) Reasonable and appropriate conditions are imposed which will prevent the exception from causing adverse impacts on water quality.

d. If the Planning Commission cannot make the required findings or refuses to grant the exception, it shall return the request for an exception together with the water quality impact assessment and the written findings and rationale for the decision to the applicant.

~~(3) The exception request is the minimum necessary to afford relief.~~

~~(4) The exception request will be consistent with the purpose and intent of this division and not injurious to the neighborhood or otherwise detrimental to public safety and welfare.~~

~~(5) The request is being made because of the particular physical surroundings, use, shape or topographical conditions of the specific property involved or property adjacent to or within 100 feet of the subject property, or a particular hardship to the owner will occur, as distinguished from a mere inconvenience, if the strict letter of this chapter is carried out.~~

~~(c) Any person aggrieved by the director of environmental engineering's decision concerning an exception request may appeal the decision in accordance with section 19-268.~~

o o o

Sec. 19-241. Design criteria for all basins.

All basins required by the director of environmental engineering as either a stormwater management facility or a Best Management Practice for water quality improvement or designed as a retention or detention facility for any new development or redevelopment of property shall conform to the following criteria:

(1) *Safety criteria.*

a. Outflow device safety measures.

1. If a vertical sided weir box is located within the basin's embankment, a six-foot fence or dense vegetative barrier, or a combination thereof, shall be installed as prescribed by the director of environmental engineering. If a dense vegetative barrier is used, it shall be designed and installed in accordance with professionally accepted landscaping practices and procedures. ~~Plans for the vegetative barrier, including the size and description of proposed plant materials, shall be approved by the director of environmental engineering.~~ The director of environmental engineering shall approve plans for the vegetative barrier, including the size and description of proposed plant materials. The dense vegetative barrier shall be a minimum of six feet in width. If a fence or vegetative barrier is to be established around the entire basin facility in accordance with subsection (1)(b), then no barrier or fence is required around the weir box. If a developer uses a concrete weir for either the principal or emergency spillway and the concrete weir is greater than three feet in depth, a pedestrian crossing or access structure shall be established across the weir. A fence or vegetative barrier, or combination thereof, may be substituted if the pedestrian crossing is not practicable.

b. Basin safety measures and dimensions.

1. The following safety measures shall be required for that portion of each basin ~~which~~ that has a side slope above the normal water surface ~~which~~ that is steeper than 6:1 over a horizontal distance of 20 feet or more.

o o o

4. If a fence is used, the minimum height of the fence shall be six feet. The fence may be made of a dense vegetative barrier. If the fence is made of a vegetative barrier, it shall be designed and installed in accordance with professionally accepted landscaping practices and procedures. ~~Plans for the vegetative barrier,~~

~~including the size and description of proposed plant materials, shall be approved by the director of environmental engineering.~~ The director of environmental engineering shall approve plans for the vegetative barrier, including the size and description of proposed plant materials. If a vegetative barrier is used, the property owner or developer shall provide to the county a form of surety for the cost of materials and installation for the proposed plant materials. Provisions for maintenance of and access to the fence or vegetative barrier shall be included in the best management practice easement dedication.

o o o

6. Side slopes. The side slopes above the normal water surface elevation in basins shall be no steeper than 3:1 (horizontal to vertical). If the excavation of the slope to 3:1 will result in the removal of dense vegetation or woodland ~~which~~ that is acting to stabilize the slope, the developer may seek an exception from the director of environmental engineering pursuant to the provisions of section 19-235 to leave the slope in its existing condition.

o o o

Sec. 19-242. Minimum criteria for basins serving as a best management practice for water quality improvement.

(a) *Depth.* Basins sized solely as best management practice facilities in conformance with the Chesapeake Bay Preservation Act shall have a range in depth of three to eight feet to prevent stratification. For those basins which have been designed with sections which exceed eight feet in depth, only those portions which are less than eight feet in depth shall be included as part of the best management practice facility volume. Basins ~~which~~ that are less than one acre in surface area shall not exceed eight feet in depth.

o o o

Sec. 19-301. Definitions.

Nontidal wetlands: Those wetlands other than tidal wetlands that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, as defined by the U.S. Environmental Protection Agency pursuant to section 404 of the federal Clean Water Act in 33 CFR 328.3b, ~~dated November 13, 1986, as amended~~.

o o o

Silvicultural activities: Forest management activities, including but not limited to the harvesting of timber, the construction of roads and trails for forest management purposes, and the

preparation of property for reforestation that are conducted in accordance with the silvicultural best management practices developed and enforced by the State Forester pursuant to Va. Code § 10.1-1105 and are located on property defined as real estate devoted to forest use under Va. Code § 58.1-3230 of t_____

o o o

Tidal wetlands: Vegetated and nonvegetated wetlands as defined in Va. Code § 28.2-1300.

o o o

~~*Tributary stream*: Any perennial stream that is so depicted as a solid blue line on the most recent U.S. Geological Survey 7.5-minute topographic quadrangle map (scale 1:24,000).~~

o o o

Water Body with Perennial Flow: A body of water that flows in a natural or man-made channel year-round during a year of normal precipitation. This includes, but is not limited to streams, estuaries, and tidal embayments and may include drainage ditches or channels constructed in wetlands or from former natural drainage ways, which convey perennial flow. Lakes and ponds, through which a perennial stream flows, are a part of the perennial stream. Generally, the water table is located above the streambed for most of the year and groundwater is the primary sources for stream flow.

o o o

Water-dependent facility: A development of land that cannot exist outside of a resource protection area and must be located on the shoreline because of the intrinsic nature of its operation. These facilities include, but are not limited to:

(1) Ports.

(2) The intake and outfall structures of power plants, water treatment plants, sewage treatment plants and storm sewers.

(3) Marinas and other boat docking structures.

(4) Natural b~~B~~eaches and other water-oriented recreation areas.

(5) Fisheries or other marine resources facilities.

o o o

(2) That this ordinance shall become effective immediately upon adoption.